LINKING MARYLAND – AN ANALYSIS OF A BROADBAND GRANT PROGRAM

by
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Abstract

A decade before Covid 19, educators first wrote about the homework gap, a phenomenon where students have reduced school achievement due to a lack of reliable broadband access at home. The pandemic has only served to emphasize how broadband has become an absolute necessity in our children's academic success. This paper examines Linking Maryland, a hypothetical grant program designed to encourage local actors to come up with innovative solutions to help expand reliable broadband into communities in need. Unlike similar programs, Linking Maryland does not place restrictions on the use of wireless technology. Upon examination, it was determined that Linking Maryland was not a viable policy solution. This recommendation was based on several factors including cost, political realities, overlap and competition, etc.

Advisor: Professor Paul Weinstein

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MEMORANDUM

DT: August 31, 2021
RE: Broadband Expansion
TO: Governor Lawrence Hogan
FR: Dominic J. Butchko

Action Forcing Event

Under the American Rescue Plan Act (ARPA), Maryland was allocated $3.7 billion. Recently you announced that $300 million from APRA, plus an additional $100 million from the state, would be allocated to fund the state's goal of ensuring that all Marylanders have access to reliable and affordable broadband by the end of 2026.[1]

Statement of the Problem – The Homework Gap & Broadband

Long before the Covid 19 pandemic, many education leaders have been warning policymakers about the "homework gap," referring to the number of students who lack adequate access to broadband and therefore cannot complete at home assignments.[2] While connectivity was essential to academic achievement before the pandemic, Covid has now made broadband an absolute necessity just to make it to class.

A report from Michigan State University's Quello Center found a correlation between broadband quality and SAT scores,

> "Middle and high school students with high-speed Internet access at home have more digital skills, higher grades, and perform better on standardized tests, such as the SAT. . . . students who cannot access the Internet from home or are dependent on a cell phone for Internet access do worse in school and are less likely to attend college or university. The deficit in digital skills contributes to lower student interest in careers related to science, technology, engineering, and math."[3]

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[1] Bennett Leckrone, "Hogan Announces $400M Initiative to EXPAND Broadband Access," Maryland Matters, August 21, 2021, https://www.marylandmatters.org/blog/hogan-announces-400m-initiative-to-expand-broadband-access/.

[2] Brooke Auxier and Monica Anderson, "As Schools Close Due to the Coronavirus, Some U.S. Students Face a Digital 'Homework Gap'," Pew Research Center (Pew Research Center, July 27, 2020), https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/.

[3] Keith Hampton et al., "Broadband and Student Performance Gaps," *SSRN Electronic Journal*, 2020, https://doi.org/10.2139/ssrn.3614074.

The report concludes that, "They (the study) reveal(s) that poor Internet connectivity has repercussions that go far beyond the ability to complete homework assignments. In many cases, students will possibly be disadvantaged for life."

Families lack broadband access primarily for two reasons. First, their physical location is currently without reliable access; or second, there are prohibitive cost barriers. Regarding location, internet service providers (ISPs) face many obstacles to expanding their networks to more rural areas. The two most prominent of which are costs and legal challenges. "In sparsely populated areas, however, the returns to internet investment from user fees aren't enough to cover private providers' costs of building out their networks—an issue known as the "last mile" problem."[4] These higher costs are often associated with geographic concerns, such as: the dispersion of housing units and overall lack of density, land rights issues, the terrain being physically challenging to lay the proper infrastructure (i.e., fiber cables).[5]

Urban areas usually have better broadband access, but many families lack reliable service primarily because they cannot afford the prices set by ISPs.[6] A Pew Research study found that nationally, over 40% of households that are designated low income (earning below $30,000 per year) lack broadband access and a computer. [7] Data from the Abell Foundation found similar patterns in Maryland's own Baltimore City, showing a correlation between low-income households and a lack of broadband.[8] 22% of Baltimore City households lack any broadband

[4] Sophia Campbell, Jimena Ruiz Castro, and David Wessel, "The Benefits and Costs of Broadband Expansion," Brookings (Brookings, August 18, 2021), https://www.brookings.edu/blog/up-front/2021/08/18/the-benefits-and-costs-of-broadband-expansion/.

[5] 2021 Stephanie KanowitzJun 29, "Broadband Infrastructure, Cost Issues Hobble State Expansion Efforts," GCN, accessed September 16, 2021, https://gcn.com/articles/2021/06/29/broadband-challenges.aspx.

[6] Sophia Campbell, Jimena Ruiz Castro, and David Wessel, "The Benefits and Costs of Broadband Expansion," Brookings (Brookings, August 18, 2021), https://www.brookings.edu/blog/up-front/2021/08/18/the-benefits-and-costs-of-broadband-expansion/.

[7] Emily A. Vogels, "Digital Divide Persists Even as Americans with Lower Incomes Make Gains in Tech Adoption," Pew Research Center (Pew Research Center, September 10, 2021), https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/.

[8] John B Horrigan, "Baltimore's Digital Divide: Gaps in Internet Connectivity and the Impact on Low-Income City Residents," 2020, https://abell.org/publications/baltimores-digital-divide-gaps-internet-connectivity-and-impact-low-income-city.

connection. Of those households who are connected, 19% lack a wireline connection. 75,000 households lack some form of computer altogether. The report estimates that 38,000 students aged 17 and under are currently living in homes that lack a wireline broadband connection, meaning that these students at best lack access to reliable broadband and at worst lack access all together. Most of these households are low income.

The visuals below from the Brookings Institution shows neighborhood broadband subscription rates in and around Baltimore City and Washington, D.C., two major metropolitan areas of Maryland.[9] The spectrum of dark red to navy represents subscription rates, dark red being lower and navy being higher. Both maps show a correlation between subscription rates and neighborhood income levels.

Another study by Abell, this time looking at the entire state of Maryland, found that 520,000 households lack access to reliable broadband.[10] The study also found that a substantial portion of this percentage are low-income households.

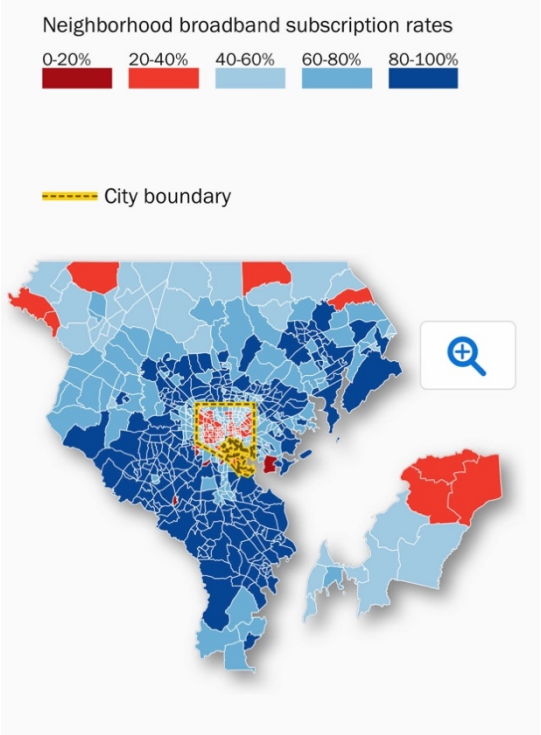
A report by Future Ready School found that 220,714 children in Maryland lacked internet access; 14,337 children come from rural households, and 203,757 children come from urban households.[11] The report also found that 82,220 children live in households without mobile devices; 3,554 children come from rural households and 78,666 from urban households.

[9] Adie Tomer, Elizabeth Kneebone, and Ranjitha Shivaram, "Signs of Digital Distress: Mapping Broadband Availability and Subscription in American Neighborhoods," Brookings (Brookings, May 7, 2018), https://www.brookings.edu/research/signs-of-digital-distress-mapping-broadband-availability/.

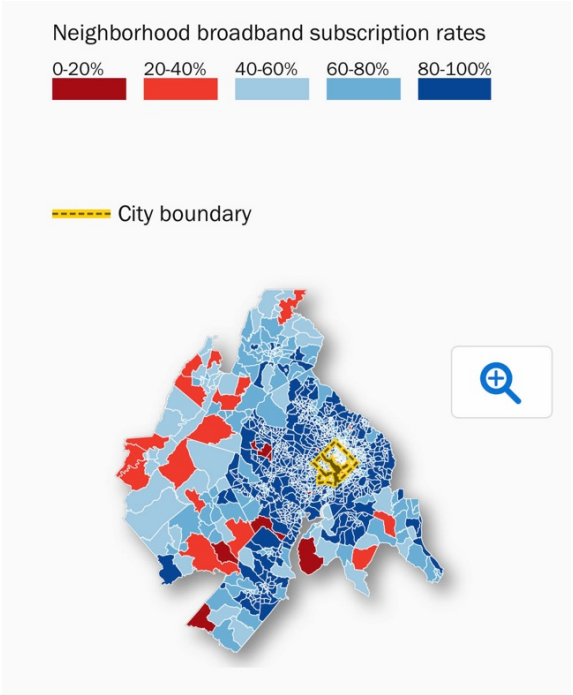
[10] John B Horrigan, "Disconnected in Maryland: Statewide Data Show the Racial and Economic Underpinnings of the Digital Divide,"2021, https://abell.org/sites/default/files/files/2020_Abell_digital%20inclusion_full%20report_FINAL-web.pdf

[11] "Homework Gap," Future Ready, accessed September 16, 2021, https://futureready.org/homework-gap/.

Figure 1: Maps of Baltimore Metro Area and Washington Metro Area



Baltimore – Columbia – Towson, MD
Source: Brookings Institution



Washington – Arlington Alexandria, DC-VA-MD-WV
Source: Brookings Institution

History of the Problem

The homework gap as we know it appears to be a relatively new problem. The gap begins to show as broadband access grows in importance to everyday life and thus education.

Growth of the Gap

Traditionally most students could complete their homework using only paper and pencil. As the world becomes more connected and reliant on the internet, so too has our education system. To complete many homework assignments, students now must have access to a reliable broadband connection and a device to use it. While this reality predates the pandemic by at least half a decade, Covid has brought the "homework gap" to the forefront.

In 2011, Sharon Strover, Ph.D., wrote one of the first pieces that outlined broadband's impacts on rural communities and how a lack of access can have devastating economic effects,

"The simple answer is that rural communities will be economically crippled without broadband access. That's the long and the short of it. Broadband will not bring immediate economic transformation to rural America. But regions that lack broadband will be crippled. Having broadband may not necessarily mean a sharp increase in jobs; however, not having broadband will probably mean fewer jobs."[12] When Strover wrote this, 4G was just being rolled out nationally; now as we prepare for next generation 5G networks, her words are even more powerful.

The first academic literature documenting a gap between academic achievement and broadband access came out of a 2015 Pew Research study by John B. Horrigan called, *The Numbers Behind the Broadband 'Homework Gap'.*[13] Horrigan found that roughly 5 million households with school-aged children lacked broadband nationally, with low income and racial minority households taking up a disproportionate share of the figure. The data also showed a correlation between households making less than $50,000 and having broadband access.

Horrigan's work ignited interest in the subject and caught the attention of policymakers. Jessica Rosenworcel, currently the longest-serving commissioner and acting chair of the Federal Communications Commission (FCC), became a proponent of expanding broadband access to end this disparity. In her 2015 statement regarding updating FCC regulations to include broadband access under the Lifeline program, she cited Horrigan's work on the homework gap as her motivation,

> "There are so many reasons this rulemaking is important. But I want to bring laser-like focus on one of them: the Homework Gap. . . students who lack regular broadband access are struggling to keep up—and their lack of access is holding our education system back. In fact, according to the Pew Research Center more than half of teachers in low-income communities have said that their students' lack of access to online resources at home presents a major challenge to integrating technology into their teaching."[14]

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[12] Strover, Sharon. "Lack of Broadband Has Crippling Effect." UT News, April 8, 2011. https://news.utexas.edu/2011/04/08/lack-of-broadband-has-crippling-effect/.

[13] Horrigan, John B. "The Numbers behind the Broadband 'Homework Gap'." Pew Research Center. Pew Research Center, May 30, 2020. https://www.pewresearch.org/fact-tank/2015/04/20/the-numbers-behind-the-broadband-homework-gap/.

[14] Commissioner, and Jessica Rosenworcel, STATEMENT OF COMMISSIONER JESSICA ROSENWORCEL § (2015).

Her testimony, which included empirical and anecdotal evidence, clearly indicated that broadband access is an issue requiring urgent action.

In July of 2015, the Obama administration launched the pilot ConnectHome program, which was launched in twenty-seven cities and one tribal nation. The program reached over 275,000 low-income households – and nearly 200,000 children.[15] Since the pilot, ConnectHome expanded under the Department of Housing and Urban Development (HUD) to impact, "37% of HUD-assisted households with children in these communities have gained internet access through ConnectHome efforts."[16]

The first program in Maryland to try and solve this problem came out of Montgomery County. In 2016 the county moved to expand public access of their in-house broadband network, called FiberNet, to recreation centers around the county.[17][18] The main idea behind this expansion was that recreation centers often had later operating hours than public libraries and offered another location where students could focus on schoolwork.

In 2020 the public became increasingly aware of the "homework gap" due to the pandemic-related lockdowns and new literature on the subject. In March 2020, Michigan State University released a study showing compelling data that students who lack broadband access had scored lower on standardized tests such as the SATs,

> "We found that students with even modestly lower digital skills perform a lot worse on the SAT. We measured digital skills on a scale from 0 to 64. The average score was around 30, but a student who performed modestly lower in digital skills scored about 7

[15] National Archives and Records Administration "Fact Sheet: Connecthome: Coming Together to Ensure Digital Opportunity for All Americans." National Archives and Records Administration. National Archives and Records Administration, July 15, 2015.

[16] "ConnectHomeUsa." ConnectHomeUSA. Department of Housing and Urban Development. Accessed October 1, 2021. https://connecthomeusa.org/.

[17] Mulholland, Jessica. "Tackling the 'Homework Gap': Maryland County to Expand Fibernet Infrastructure, Forge Public-Private Partnerships." GovTech. GovTech, April 23, 2021. https://www.govtech.com/education/tackling-the-homework-gap-maryland-county-fibernet-infrastructure-public-private-partnerships.html.

[18] "Network Footprint." FiberNet - Footprint. Montgomery County Government. Accessed October 1, 2021. https://montgomerycountymd.gov/obp/fibernet-footprint.html.

> percentiles lower nationally on the SAT. That is true for standardized test scores across all grades, not just the SAT."[19]

On March 16, Maryland ordered all schools to close, and classes transitioned to an entirely virtual environment.[20] The closing was followed by two studies by the Abell Foundation (May 2020 and January 2021) on broadband access in Baltimore City and the state more broadly. Both studies highlighted that a significant portion of Maryland's population lacks adequate broadband access and how this lack of access impacted students.[21][22] In October 2020, the National Education Association found Maryland had the eleventh lowest percent of students without broadband.[23] This data showed a shocking 20%, or one in five students, lack access.

In September 2021, after nearly 18 months of entirely virtual classes, Maryland's 900,000 students returned to in-person instruction.[24] While this is welcome news to many parents, questions still linger about the possible necessity of returning to a virtual setting due to the pandemic. Regardless of the future of Covid, there is no question that education is becoming reliant on access to broadband.

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[19] Bauer, Johannes, Caroline Brooks, and Keith Hampton. "Poor Internet Connection Leaves Rural Students Behind." MSUToday. Michigan State University, March 2, 2020. https://msutoday.msu.edu/news/2020/poor-internet-connection-leaves-rural-students-behind.

[20] "Map: Coronavirus and School Closures in 2019-2020." Education Week. Education Week, June 30, 2021. https://www.edweek.org/leadership/map-coronavirus-and-school-closures-in-2019-2020/2020/03.

[21] Horrigan, John B. "Baltimore's Digital Divide: Gaps in Internet Connectivity and The." The Abell Foundation - Working To Enhance The Quality Of Life In Baltimore And In Maryland. Abell Foundation, May 2020. https://abell.org/publications/baltimores-digital-divide-gaps-internet-connectivity-and-impact-low-income-city.

[22] Horrigan, John B. "Disconnected in Maryland: Statewide Data Show the Racial and Economic Underpinnings of the Digital Divide" The Abell Foundation - Working To Enhance The Quality Of Life In Baltimore And In Maryland. Abell Foundation, January 2021.

[23] "The Digital Divide and Homework Gap in Your State." NEA. National Education Association, October 16, 2020. https://www.nea.org/resource-library/digital-divide-and-homework-gap-your-state.

[24] Rakowski, Lora. "Maryland Students Return to Full, In-Person Learning for 2021-2022 School Year." Press Release: Maryland students return to full, in-person learning for 2021-2022 school year. Maryland Department of Education, September 9, 2021. https://news.maryland.gov/msde/maryland-students-return-to-full-in-person-learning-for-2021-2022-school-year/.

Significant Milestones in Closing the Gap

There have been several significant policy actions to increase access to quality broadband and thus push to close the homework gap: the Obama administrations' ConnectHome program, the Lifeline Program, Connect Care Pilot Program, the Emergency Broadband Benefit Program, and AT&T K-12 Homework Gap Program.

ConnectHomeUSA

The ConnectHome program, a.k.a. ConnectHomeUSA, was created under the Obama administration and is administered by the Department of Housing and Urban Development (HUD). ConnectHome aimed to help bring broadband connections and digital literacy to public housing communities nationally.[25]

> "ConnectHomeUSA is a public-private collaboration to narrow the digital divide for families with school-age children who live in U.S. Department of Housing and Urban Development (HUD) assisted housing. . .
>
> ConnectHomeUSA creates a platform for community leaders, local governments, nonprofit organizations, and private industry to join together and produce locally-tailored solutions for narrowing the digital divide. Through these stakeholders' specific commitments to provide free or low-cost broadband access, devices, and digital literacy training, ConnectHomeUSA extends affordable access to low-income families, ensuring that high-speed internet follows our children from their classrooms back to their homes."[26]

Seen as the next step in Obama's ConnectED initiative, ConnectHome represented the first program meant to respond to a lack of broadband connectivity in people's homes.[27][28] Baltimore

[25] "ConnectHomeUsa." ConnectHomeUSA. Department of Housing and Urban Development. Accessed October 1, 2021. https://connecthomeusa.org/.
[26] "Our Impact." ConnectHomeUSA. Department of Housing and Urban Development. Accessed October 1, 2021. https://connecthomeusa.org/.
[27] "Connected." National Archives and Records Administration. National Archives and Records Administration, 2015. https://obamawhitehouse.archives.gov/issues/education/k-12/connected.
[28] "Fact Sheet: Connecthome: Coming Together to Ensure Digital Opportunity for All Americans." National Archives and Records Administration. National Archives and Records Administration, July 15, 2015.

Housing was part of the original 2015 rollout, and the Housing Authority of Annapolis joined the program in 2019.[29] Below are some statics highlighting the program's impact:

> "-After participating in ConnectHome, 82% of participants said they'd check their child's grades using the internet, while 75.6% said they'd use the internet help their children with schoolwork.
> -89.2% of residents have retained their ConnectHome internet connection to date.
> -64.6% of participants used their device all the time or often for personal, educational, and/or professional development.
> -82.6% of participants were likely to continue learning by taking the online classes provided as part of the ConnectHome program."[30]

Lifeline Program for Low-Income Consumers

First started in 1985 under the Regan administration, the Lifeline Program for Low-Income Consumers (Lifeline) provides qualifying low-income families with subsidies to help access critical telecommunication services.[31] The program only supported landline home phone service but was later expanded to include cell phones, fixed broadband, and mobile broadband.[32][33] Eligible recipients receive up to a $9.25 per month subsidy, while those on tribal lands receive a maximum of $34.25 per month. This program targeted individuals who make below 135% of the Federal Poverty Guidelines or are the recipient of a federal assistance program, e.g., Supplemental Nutrition Assistance Program (SNAP), Medicaid, Federal Public Housing Assistance, Supplemental Security Income, the Veterans and Survivors Pension Benefit, or specific Tribal Programs.

[29] "Communities" ConnectHomeUSA. Department of Housing and Urban Development. Accessed October 1, 2021. https://connecthomeusa.org/.
[30] "Our Impact." ConnectHomeUSA. Department of Housing and Urban Development. Accessed October 1, 2021. https://connecthomeusa.org/.
[31] "Lifeline Program for Low-Income Consumers." Federal Communications Commission. Federal Communications Commission, September 23, 2021. https://www.fcc.gov/general/lifeline-program-low-income-consumers.
[32] "FCC MODERNIZES LIFELINE PROGRAM FOR THE DIGITAL AGE ." *FCC News*. Federal Communications Commission, March 31, 2016. Federal Communications Commission. https://www.fcc.gov/document/fcc-modernizes-lifeline-program-digital-age.
[33] "Lifeline Availability in Maryland." Lifeline Availability in Maryland. Maryland Public Service Comission, June 3, 2021. https://www.psc.state.md.us/telecommunications/lifeline-availability-maryland/.

Verizon is just one of the authorized Lifeline providers in Maryland. The services below represent what is offered to low-income consumers under the program both by Verizon and other providers.

> "-**Voice Basic Tel-Life** - $0.66 per month for 30 outgoing local calls and $0.10 per local call over the 30-call limit. Value-added services are not allowed (for example, Call Waiting and Caller ID).
> -**Voice Enhanced Tel-Life** - $10.00 per month for unlimited local calls. This plan allows customers to order two value-added services (for example, Call Waiting and Caller ID) at current rates.
> -**Broadband (internet)** - $9.25 monthly discount"[34]

Connected Care Pilot Program

Recognizing the importance of telehealth during the pandemic, the FCC created the Connect Care Pilot Program. Under this new initiative, the FCC,

> "will provide up to $100 million from the Universal Service Fund (USF) over a three-year period to selected applicants to support the provision of connected care services. . . . The Pilot Program will provide funding for selected pilot projects to cover 85% of the eligible costs of broadband connectivity, network equipment, and information services necessary to provide connected care services to the intended patient population. "[35]

Four Maryland healthcare providers received grants: the Kennedy Krieger Children's Hospital, Johns Hopkins Medicine, Sheppard Pratt, and Mobile Medical Care.[3637] Each nonprofit used the funds to help provide low-income patients with reliable broadband service and receive quality telemedical treatment; this included providing homes with wireless and wireline connections and subsidies to obtain devices. Kennedy Krieger Children's Hospital received just under $2 million; Johns Hopkins Medicine received just under $300,000; Sheppard Pratt received just over $1.1

[34] "Service Details - Verizon." Lifeline Service in Maryland is provided by Verizon Maryland LLC., and Verizon Online LLC. Verizon Communications. Accessed October 1, 2021. https://www.verizon.com/supportresources/content/dam/verizon/support/consumer/documents/phone/low-cost/va-service-details-060117.pdf.

[35] "Connected Care Pilot Program." Federal Communications Commission. Federal Communications Commission, July 14, 2021. https://www.fcc.gov/wireline-competition/telecommunications-access-policy-division/connected-care-pilot-program.

[36]"Connected Care Pilot Program - Selected Projects." Federal Communications Commission. Federal Communications Commission, July 14, 2021. https://www.fcc.gov/connected-care-pilot-program-selected-projects.

[37]"Connected Care Pilot Program." Federal Communications Commission. Federal Communications Commission, July 14, 2021. https://www.fcc.gov/wireline-competition/telecommunications-access-policy-division/connected-care-pilot-program.

million, and Mobile Medical Care received under $300,000.[38] While this does not represent a program specifically aimed at the homework gap, it does represent one of the most significant commitments to helping connect low-income households with reliable broadband.

Emergency Broadband Benefit & the Maryland Emergency Broadband Benefit

In 2021, as part of the federal government's broader pandemic response, the FCC established the Emergency Broad Benefit Program (EBB)[39]. This program functionally is a massive but temporary expansion of the previously mentioned Lifeline program. The criteria for receiving both overlaps, but EBB is more expansive and explicitly targeted at reducing the homework gap. Eligibility requirements target Pell Grant recipients and reduced or free school lunch recipients.

Under the EBB, eligible households receive a monthly subsidy of up to $50 towards broadband service and $75 on tribal lands. There is also a one-time $100 subsidy for purchasing a desktop, laptop, or tablet computer. Maryland introduced a further supplemental program of $15 per month to EBB recipients for up to 12 months.[40] There is talk on the federal level of making the EBB a permanent program but reducing the benefit to $30 per month. Presently the program is set to expire either when the $3.2 billion in funding runs out or when the pandemic is declared over.[41] There are also conversations about setting aside additional funds in a future infrastructure bill.

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[38] "Https://Docs.fcc.gov/Public/Attachments/DOC-373368A1.Pdf." *FCC News*. Federal Communications Commission, June 17, 2021. Federal Communications Commission. https://docs.fcc.gov/public/attachments/DOC-373368A1.pdf.

[39] "Emergency Broadband Benefit." Federal Communications Commission. Federal Communications Commission, September 8, 2021. https://www.fcc.gov/broadbandbenefit.

[40] "Governor Hogan Announces $400 Million Initiative to Ensure Universal Broadband For Maryland." *The Office of Governor Larry Hogan*. State of Maryland, August 20, 2021. The Office of Governor Larry Hogan. https://governor.maryland.gov/2021/08/20/governor-hogan-announces-400-million-initiative-to-ensure-universal-broadband-for-maryland/.

[41] Wyrich, Andrew. "6 Million Households Have Signed up for FCC's Broadband Benefit Program." The Daily Dot, September 30, 2021. https://www.dailydot.com/debug/fcc-6-million-enrolled-emergency-broadband-benefit/.

AT&T K-12 Homework Gap Program

AT&T has teamed up with nonprofits, such as Connected Nation, to help identify areas in need, distribute mobile hotspots and install broadband service to low-income students. Nationally they were able to distribute 35,000 hotspots across 26 states.[42] In Baltimore City, the program was able to get 800 mobile hotspots into the hands of low-income kids.[43]

Digital Connectivity Act of 2021

During the 2021 legislative session, the General Assembly passed HB 97, the Digital Connectivity Act of 2021.[44] The bill represented the first significant action by the state of Maryland to address broadband connectivity challenges across the state,

> "Establishing the Office of Statewide Broadband in the Department of Housing and Community Development to ensure that every resident of the State is supported by high-quality broadband Internet service at an affordable price and has the tools necessary to use and take advantage of the Internet; requiring the Office to develop, by July 1, 2022, a statewide plan to ensure all State residents can connect to reliable broadband Internet by December 31, 2026; establishing the Digital Inclusion Fund to support capacity building in the State; etc."[45]

The Office of Statewide Broadband (OSB) would become the center of broadband policy and would administer the state's broadband-related programs. OSB currently administers $400 million across three main programs; the Maryland Emergency Broadband Benefit, the Neighborhood Connect Broadband Grant Program, and the Connect Maryland – FY22 Network Infrastructure Grant Program.[46][47] The Maryland Emergency Broadband Benefit was previously

[42] "AT&T K-12 Homework Gap Program Awardees Announced." Connected Nation. Connected Nation, August 11, 2021. https://connectednation.org/homeworkgap/.
[43] "Five Baltimore Organizations Receiving Free Hotspots, Internet Service." AT&T Midatlantic, June 4, 2021. https://midatlanticregion.att.com/five-baltimore-organizations-receiving-free-hotspots-internet-service/.
[44] Kirby, Donte. "A Maryland Bill Seeks to Create a Statewide Digital Inclusion Office. It's Getting Support from the Local Tech Community." Technical.ly Baltimore. Technically Media, January 26, 2021. https://technical.ly/baltimore/2021/01/26/digital-inclusion-bill-maryland/.
[45] "MD - HB97." BillTrack50. Accessed November 6, 2021. https://www.billtrack50.com/BillDetail/1255461.
[46] Leckrone, Bennett. "Hogan Announces $400M Initiative to Expand Broadband Access." Maryland Matters, August 21, 2021. https://www.marylandmatters.org/blog/hogan-announces-400m-initiative-to-expand-broadband-access/.
[47] Office of Statewide Broadband. Accessed November 6, 2021. https://dhcd.maryland.gov/Broadband/Pages/default.aspx.

detailed above. The Neighborhood Connect Broadband Grant Program encourages communities to expand existing broadband networks into underserved parts of a community. The Connect Maryland – FY22 Network Infrastructure Grant Program promotes the expansion of new networks.

Major Actors

There are two principal actors in this space: governments and private actors.

Governments

The leading player overall in this space is the FCC. This agency is responsible for the bulk of plans and policies from the federal government to expand broadband. These programs include the Lifeline Program, the Connect Care Pilot Program, and the Emergency Broadband Benefit Program (EBB). The fourth program, ConnectHome, is administered by HUD.

The state of Maryland has become a supplemental, but not yet a major, player. Current state programs offer an additional subsidy on top of the EBB, $15 per month, but this is strictly a compliment to EBB and is not stand alone. On the local level, a few ambitious jurisdictions, such as Montgomery County, have increased broadband access in public places, but none have targeted policy toward improving access in the home.

Private Actors

Most private actors are nonprofits. These organizations either team up with for-profit businesses, such as Connected Home and AT&T, or grant programs like the Connect Care Pilot Program. Currently, the Connected Home and AT&T partnership appear to be the only major national player. Those nonprofits that participated in Connect Care were only regional in scope and only focused on health and broadband, not education.

Policy Proposal – Linking Maryland

The state of Maryland must ensure that all residents, regardless of income or background, have affordable and reliable access to broadband. While the state plays a prominent role in broadband expansion, local government and private sector actors have the most impact on their communities. Because of this, your administration must do more to encourage local actors. In 2021 the FCC launched the Connected Care Pilot Program. Connected Care funneled grant money to healthcare nonprofits helping low-income patients gain access to telemedicine. We need to create a similar state-level program that quickly and significantly reduces the percentage of low-income Marylanders who lack reliable broadband. This program should be considered successful if it reduces the number of Maryland households without broadband to below ten percent by 2024.

Snapshot of Linking Maryland

The Linking Maryland Pilot Program will be a $50 million program aimed at quickly spurring the connection of low-income households to broadband. In Maryland, roughly 25% of households are currently without broadband access.[48] The program will emphasize maximizing rollout speed, connection quality, and reaching the most residents possible per project. Linking Maryland will take an all of the above approach, allowing applicants to use either wireless or wireline technology. The program is designed as a stopgap solution to help the most vulnerable get connected as soon as possible.

[48] Horrigan, John B. "Disconnected in Maryland: Statewide Data Show the Racial and Economic Underpinnings of the Digital Divide" The Abell Foundation - Working To Enhance The Quality Of Life In Baltimore And In Maryland. Abell Foundation, January 2021.

Policy Authorization Tool

Several authorizations are required to implement Linking Maryland. First, Congress must pass an infrastructure funding bill before the start of the 2022 legislative session. A delay could pose possible problems due to the General Assembly's 90-day operating window. You could call the General Assembly into a special session if Congress passes the bill after the 90-day window, but this could be problematic. Should Congress pass an infrastructure package during the session, this could pose additional issues as a balanced budget is required before other legislation can be passed.

Once there is certainty that Maryland will receive funds under a federal infrastructure bill, the program will require a new appropriation in the upcoming FY 2023 budget. Under the Maryland constitution, the Governor submits a budget to the General Assembly; the General Assembly cannot go beyond the caps of the Governor's proposed budget and cannot exceed nor rearrange the allocations.[49] Should you propose in your FY 2023 budget the creation of the Linking Maryland program, the General Assembly would be required to in effect either support the program or vote to defund it.

Policy Implementation Tool

The Office of Statewide Broadband (OSB) will be responsible for administering the Linking Maryland Program. Currently, the office administers several other broadband related grants and already has the infrastructure and expertise.

[49] State of Maryland "Maryland Operating Budget Overview." Maryland's Budget Process: An Overview. State of Maryland. Accessed October 15, 2021. https://dbm.maryland.gov/budget/pages/budget-process-overview.aspx.

Timeline for Implementation

OSB should begin preparing to open the application window once the General Assembly passes a budget. The application window should be open for no fewer than 30 days and should end on the last day of the current fiscal year. OSB should disburse no fewer than half of the funding in the first round of applications. Should there be remaining funds, OSB must reopen a second round of funding within six months of the end of the first round. All funding should be exhausted before the start of the next fiscal year. Awardees will have one year to spend their entire award amount or return any remaining sum.

Eligible Projects

Connect Maryland will broadly mirror the same project guidelines set but the FCC's Connect Care.[50] The program will fund:

- devices, including end-user connected devices (e.g., tablets, smart phones, or remote patient monitoring equipment).

- New or upgraded broadband connections (whether for health care provider or participating patients) necessary for connected care services for the Pilot Program. o Examples of the Types of Broadband Eligible for Pilot Program Support include:
    a. Digital Subscriber Line
    b. Cable Modem
    c. Optical Carrier/Fiber to the End-User
    d. Terrestrial Fixed Wireless
    e. Mobile Wireless (e.g., 3G, LTE, 4G, 5G)
    f. Satellite
    g. Broadband over Powerline

The program will not fund:

- personnel costs (including, but not limited to medical professional costs), or other miscellaneous expenses.

[50] FCC. "Public Notice - Federal Communications Commission." FCC. Accessed October 15, 2021. https://docs.fcc.gov/public/attachments/DA-20-1315A1.pdf.

Mini & Max Awards

In line with the FCC's Connected Care Program, awardees will be able to apply for up to 85% of funding for eligible services.[51][52] The remaining percentage must be paid from other funding sources. OSB will have discretion in determining the appropriate minimum and maximum award amounts, but they must adhere to the up to 85% limit.

Standards Of Service

OSB will have discretion in setting internet speeds and other service standards that awardees will be required to provide. Standards cannot go below any recommendations or guidelines set by the FCC. Should the FCC update its internet speed guidelines during the program's rollout, awardees will be required to meet the new FCC standards at a minimum.[53]

Reporting Requirements

Awardees will be required to provide progress reports to OSB. OSB will have discretion in setting the appropriate reporting requirements, schedules, etc. OSB will be required to submit a report to the Governor and the General Assembly at the end of every fiscal year for the duration of the program. These reports should provide updates on the program's performance, i.e., funding discernment, how many residents now have a broadband connection at home, etc.

[51] FCC. "Connected Care Pilot Program Filing Window Opening 11/6/20 12:00 PM ET." Federal Communications Commission, December 22, 2020. https://www.fcc.gov/document/connected-care-pilot-program-filing-window-opening-11620-1200-pm-et.

[52] FCC "FCC Offers Guidance on Connected Care Pilot Program." Federal Communications Commission, June 22, 2021. https://www.fcc.gov/document/fcc-offers-guidance-connected-care-pilot-program.

[53] FCC. "Broadband Speed Guide." Federal Communications Commission, March 11, 2020. https://www.fcc.gov/consumers/guides/broadband-speed-guide.

Policy Analysis

Pros Analysis

Linking Maryland has several elements that make perusing this policy attractive. This policy shows promise in five critical areas (efficiency, effectiveness, administrative capability & capacity, and technical feasibility).

Efficiency: the ability to do something or produce something without wasting materials, time, or energy[54]

Linking Maryland calls for an all the above approach in expanding broadband to low-income residents. Unlike other similar programs, Linking Maryland is open to all forms of broadband expansion, including wireline and wireless technologies. The program relies on actors from several spaces, but primarily nonprofits and local governments, to use whatever technology is most efficient and effective in their community to expand access quickly. This includes the use of personal and neighborhood hotspots and other wireless technology that can be distributed and deployed in mass numbers. The FCC's Connected Care Pilot Program demonstrated that local actors best understand their communities and develop innovative ways to expand broadband to their most vulnerable members. The four Maryland projects used a mixture of technologies to expand broadband access, utilizing satellite, wireless, and wireline technology.[55][56]

[54] "Efficiency." Merriam-Webster. Merriam-Webster. Accessed October 31, 2021. https://www.merriam-webster.com/dictionary/efficiency.

[55] Alonso, Johanna. "To Broaden Telehealth Services, Md. Medical Organizations Providing Internet Access." Maryland Daily Record. Maryland Daily Record, September 8, 2021. https://thedailyrecord.com/2021/09/08/to-broaden-telehealth-services-md-medical-organizations-providing-internet-access/.

[56] "Connected Care Pilot Program." Universal Service Administrative Company, August 4, 2021. https://www.usac.org/rural-health-care/connected-care-pilot-program/.

Effectiveness - producing a result that is wanted[57]

In the short to medium term, Linking Maryland shows promise at being an effective program. As already mentioned, the goal of this policy would be to connect as many low-income Marylanders with reliable broadband access as quickly as possible. Current wireless technology allows applicants to distribute mass volumes of hotspots and other similar deceives to connect residents to the internet. T-Mobile currently offers 5G hotspots that provide speeds comparable to their wireline services:

> "5G Network (Via Smartphone Mobile HotSpot/Tethering, for Plans Including 5G Tethering and for our Mobile Internet plans offered after December 12, 2020 with 30GB or more per month):
>
> -Download Speeds: Typically between 36 – 133 Mbps
> -Upload Speeds: Typically between 10 – 34 Mbps
> -Latency: Typically between 24 – 40 ms
>
> 5G Network (Home Office Internet):
>
> -Download Speeds: Typically between 45 – 124 Mbps
> -Upload Speeds: Typically between 10 – 26 Mbps
>
> -Latency: Typically between 24 – 40 ms"[58]

AT&T also states that its wireless hotspots can offer comparable speeds to its wireline service.[59]

Additionally, the flexibility of Linking Maryland allows for solutions that can piggyback on broader wireline expansion in a particular area. Suppose a local organization believes that they can quickly expand wireline access compared to wireless access. In that case, their program will complement other wireline expansion projects across the state.

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[57] "Effectiveness." Merriam-Webster. Merriam-Webster. Accessed October 31, 2021. https://www.merriam-webster.com/dictionary/efficiency.

[58] "Internet Services: T-Mobile's Broadband Internet Access Services." T. T Mobile. Accessed October 31, 2021. https://www.t-mobile.com/responsibility/consumer-info/policies/internet-service.

[59] "Performance Characteristics: AT&T Broadband." Performance Characteristics | AT&T Broadband, February 6, 2018. https://about.att.com/sites/broadband/performance.

Administrative Capability & Capacity

There is no reason to doubt the Office of Statewide Broadband's (OSB) capability or capacity to implement this program. The OSB is already administering around $400 million in grant programs to connect the entire state by 2025.[60] There is an additional $100 million unallocated.[61] Whether funding from this program comes from the $100 million in unallocated funds or a possible federal infrastructure package, the OSB can handle the program's administration.

Technical Feasibility

We have the technology to roll out wireless broadband to large masses of individuals. One recent example is a study from NASA, which examined how best to connect the City of Cleveland, Ohio, with wireless broadband. [62] The study confirmed the feasibility of connecting an entire city with wireless broadband.

Con Analysis

There is currently no reason to believe that this policy will be a slam dunk. Several prominent areas present possible issues that could prove to be a barrier to Linking Maryland's success.

[60] "Governor Hogan Announces $400 Million Initiative to Ensure Universal Broadband for Maryland." Department of Housing and Community Development. Accessed October 31, 2021. https://news.maryland.gov/dhcd/2021/08/20/governor-hogan-announces-400-million-initiative-to-ensure-universal-broadband-for-maryland/.

[61] Edinger, Julia. "Gov. Hogan Launches Connect Maryland Broadband Initiative." GovTech. GovTech, August 25, 2021. https://www.govtech.com/network/gov-hogan-launches-connect-maryland-broadband-initiative.

[62] Sands, Kelly. "Using the Moon to Address Earth's Digital Inequality." NASA. NASA, October 4, 2021. https://www.nasa.gov/feature/glenn/2021/using-the-moon-to-address-earth-s-digital-inequality.

Efficiency: the ability to do something or produce something without wasting materials, time, or energy[63]

Chip Shortage

The program's openness to wireless solutions offers several areas where efficiency can lag. According to a May 2021 report put out by the Internet and Television Association, the chip shortage currently impacting all aspects of the global economy is threatening to slow down the national expansion of broadband,

> "…while American broadband networks were able to handle the massive data surge caused by the pandemic, the semiconductor industry hasn't been able to keep up with demand, and the global semiconductor supply chain is now facing a significant strain. Because of these supply chain issues, industries that rely on semiconductors—including broadband providers—are seeing significantly increased lead times in the delivery of chips. . .
>
> As a result of delays associated with the global chip shortage, in some cases, a broadband provider must wait a year from the time it places an order to the time a device like a Wi-Fi router hits its warehouse and can be delivered to a customer. This kind of delay could significantly slow broadband deployment to places that need it most and at a time when people need it most, leaving consumers and businesses without the connectivity that would allow them to compete and thrive."[64]

As a result of the global shortage of chips, wireless based solutions are possibly subject to more uncertainty or delay. Any delays related to the shortage would diminish the program's efficiency.

Cost

Another possible drawback to efficiency would be the high costs of the program. Using the data provided by the FCC, the state of Maryland received a total of $3,661,157 from four grant

[63] "Efficiency." Merriam-Webster. Merriam-Webster. Accessed October 31, 2021. https://www.merriam-webster.com/dictionary/efficiency.

[64] "How the Semiconductor Chip Shortage Could Delay Broadband Connectivity." NCTA. NCTA - Internet and Television Association, May 2021. https://www.ncta.com/whats-new/how-the-semiconductor-chip-shortage-could-delay-broadband-connectivity.

recipients from Connected Care[65]. Below is a chart outlining the average cost of connecting Marylanders to broadband using the FCC funding.

Table 1: FCC Figures from Connected Care

Institution	Award Amount	People Connected	Average Cost
Johns Hopkins	$297,670	565	$526.85
Kennedy Krieger	$1,960,950	500	$3,921.90
Mobile Medical Care, Inc.	$293,250	4500	$65.17
Sheppard Pratt	$1,109,287	600	$1,848.81
Totals	$3,661,157	6165	
Statewide w/out Broadband	520,000		
Average Cost Statewide	$593.86		
Total Cost Based on Estimates	$308,808,051.91		

The average cost was $593.86. Mobile Medical Care Inc. had the most cost-efficient program at $65.17 per person connected, and Kennedy Krieger had the least cost-efficient program at $3921.90 per person. Using this data and assuming the costs of Linking Maryland would be roughly the same, it would cost over $300,000,000 to implement this program. This figure is larger than the proposed $50 million and goes beyond the $100 million in unallocated funds that OSB is currently sitting on. This stopgap program will be more expensive than the state's more permanent wireline expansion programs combined cost of $300,000,000.[66]

Legislative Hurdles

A final issue for efficiency would be the legislature's small 90-day operating window. The General Assembly only operates for a short period from January to mid-April. That does not give us much time to try and gain legislative support from the General Assembly's Democratic

[65] "Connected Care Pilot Program." Universal Service Administrative Company, August 4, 2021. https://www.usac.org/rural-health-care/connected-care-pilot-program/.

[66] "The Office of Governor Larry Hogan." Governor of Maryland. Accessed October 31, 2021. https://governor.maryland.gov/2021/03/31/governor-hogan-president-ferguson-speaker-jones-announce-bipartisan-agreement-for-american-rescue-plan-funding/.

majority. There is also a strong possibility that Congress will enact a much smaller infrastructure package than anticipated and an increasing chance they might not pass any package at all. In either scenario, where there is no or reduced funding, we will have limited time negotiating with the legislature and possibly finding other funding sources.

Effectiveness - producing a result that is wanted[67]

There are two possible issues when it comes to effectiveness: reliability and competition with similar programs.

Reliability

One of the most significant concerns with Linking Maryland is the possibility that it will rely heavily on wireless technology. Wireless broadband is known to often be a less reliable connection compared to wireline broadband.[68] By investing in wireless technology, we are potentially investing in a broadband infrastructure that we know is more unstable during serious environmental situations and other disasters. Wireless technology is often weakened or taken down due to inclement weather. These scenarios are when reliable connections would be most needed. By possibly funding wireless technology, we are opening ourselves up to worsening climate disasters that are becoming increasingly frequent.

Competition

One final consideration would be that Linking Maryland would waste limited resources to further the more reliable wireline technology. Wireline is hands down the most stable and dependable way to ensure a broadband connection. Any investment in wireless technology could

[67] "Effectiveness." Merriam-Webster. Merriam-Webster. Accessed October 31, 2021. https://www.merriam-webster.com/dictionary/efficiency.
[68] "Rts.vermont.gov." Vermont Dept. of Public Safety. Accessed October 31, 2021. https://rts.vermont.gov/sites/rts/files/documents/TenWaysFirstNetHelps_161003_web-FINAL_1.pdf.

ultimately be seen as a waste since the technology is not nearly as reliable. More than likely, there would need to be a later investment in wireline broadband regardless. It is a question of speed versus long-term reliability.

Political Analysis

Stakeholders

There are two groups of stakeholders to consider when considering moving forward with Linking Maryland. The first and most diverse group are the elected officials at all levels of government. The second group are actors in the private sector who will primarily handle the bulk of getting towards our policy goal.

Elected Officials

To get any program successfully passed and funded, you will need to gain the support of elected officials at all three levels of government. As outlined in prior sections, funding for this program mainly relies on the passage of a federal infrastructure package. Therefore, it is essential that federal leaders, i.e., our Congressional Delegation, understand the importance of this funding and what types of programs we want to pursue.[69] Messaging should focus on shared constituencies. We need federal leaders to support a national infrastructure package and ensure it includes adequate funds for broadband. Without their support, it will be challenging to find the necessary resources. While there is $100 million sitting yet unallocated in the OSB's budget, the Democrats will likely have plans prepared for those funds.

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[69] "Van Hollen Introduces Legislation to Address the Homework Gap." U.S. Senator Chris Van Hollen of Maryland, February 28, 2020. https://www.vanhollen.senate.gov/news/press-releases/van-hollen-introduces-legislation-to-address-the-homework-gap.

Those leading the General Assembly are the most crucial group to go after. Without the support of leadership, any program is effectively dead in the water. Historically our relationship with the General Assembly has been tense but workable.[70][71][72] We must work to make necessary inroads. Without finding common ground here, Linking Maryland is dead.

Finally, local elected officials are also an essential component of this program. In Maryland, municipalities play a minimal role in day-to-day governance; counties handle almost all local zoning and land use issues. Linking Maryland is open to both nonprofits and local governments applying for funding, and thus counties must be onboard. County level support, or at least neutrality, will be necessary. We should move early on to involve the Maryland Association of Counties as we draft the necessary legislation. County support carries weight in the General Assembly and will prove essential when it comes to implementation.

Private Actors

Besides county governments, private actors will be the main force behind broadband expansion. This category includes nonprofits developing localized expansion plans, applying for grants, managing implementation, and for-profit internet service providers (ISP) who provide the actual broadband service. Since 2008 the state has changed existing codes and laws to make it easier to expand our broadband infrastructure.[73] Several nonprofits in the healthcare space have

[70] Gaskill, Hannah, and Danielle E. Gaines. "The General Assembly Overrode Hogan's Vetoes of Police Reform Bills. We Break down the Votes." Maryland Matters, April 11, 2021. https://www.marylandmatters.org/2021/04/10/the-general-assembly-overrode-hogans-vetoes-of-police-reform-bills-we-break-down-the-votes/.

[71] Erin Cox, Michael Dresser. "As General Assembly Session Begins, It's Hogan vs. Democrats." baltimoresun.com, January 9, 2016. https://www.baltimoresun.com/opinion/editorial/bs-md-session-preview-20160107-story.html.

[72] Bluth, Rachel. "Gov. Hogan Calls General Assembly 'Irresponsible' for Not Paring Back Spending Mandates." CNS Maryland. CNS Maryland, March 8, 2016. https://cnsmaryland.org/2016/03/08/gov-hogan-calls-general-assembly-irresponsible-for-not-paring-back-spending-mandates/.

[73] "State Broadband Policy Explorer." The Pew Charitable Trusts. Accessed November 29, 2021. https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2019/state-broadband-policy-explorer.

already received funding from the FCC to expand highly localized broadband access.[74] We have every reason to expect that nonprofits will continue to play an important role in reaching underserved communities.

For-profit companies provide nearly all the necessary technology to expand our networks.[75][76][77] While nonprofits do play an essential role in the administration of programs, they lack the technical capability to provide broadband service. In Maryland, most networks are controlled by for-profit companies. These companies can range in size, such as giant entities like Verizon, Comcast, and AT &T, or smaller, more regional players like Point Broadband and ThinkBig Networks. Any policy needs to consider the position of these actors if it is going to be successful.

Pros Analysis

Linking Maryland has the makings of being a popular program. Broadband expansion is necessary, especially in the aftermath of Covid 19. There are encouraging things to point to around potential advocates, favorable public opinion, and overall benefits.

Advocates

We can expect support from two main actors: broadband related associations and community leaders. Broadband related associations are trade associations that represent parties at all parts of the broadband industry. The main association we can expect to weigh in is the

[74] Alonso, Johanna. "To Broaden Telehealth Services, Md. Medical Organizations Providing Internet Access." Maryland Daily Record, September 8, 2021. https://thedailyrecord.com/2021/09/08/to-broaden-telehealth-services-md-medical-organizations-providing-internet-access/.

[75] Kinnally, Kevin. "Comcast to Expand Broadband Service in Cecil." Conduit Street, October 15, 2020. https://conduitstreet.mdcounties.org/2020/10/14/comcast-to-expand-broadband-service-in-cecil/.

[76] Kinnally, Kevin. "Point Broadband to Expand Fiber Network in Washington County." Conduit Street, July 15, 2021. https://conduitstreet.mdcounties.org/2021/07/14/point-broadband-to-expand-fiber-network-in-washington-county/.

[77] "Five Baltimore Organizations Receiving Free Hotspots, Internet Service." AT&T Midatlantic, June 4, 2021. https://midatlanticregion.att.com/five-baltimore-organizations-receiving-free-hotspots-internet-service/.

Maryland Broadband Cooperative (MdBC).[78] MdBC and similar associations will support any legislation that advances the broadband industry.

The second advocate we can foster would be urban and rural community leaders dealing with a lack of reliable broadband. The numbers speak for themselves; the homework gap is a real present problem. It is nearly impossible to find a job or complete homework without a broadband connection. Community leaders are on the ground and best understand what is appropriate in their neighborhood. The bulk of these advocates are nonprofits and local elected officials trying to expand broadband in their communities.

Public Opinion

(Quick note: there has been no statewide polling about Marylander's opinions on broadband expansion. There is, however, polling nationally on the issue, and this analysis uses that data.)

Nationally the public understands the importance of broadband. Having a reliable internet connection has ensured parents can continue to provide for their families, children can continue their education, and consumers can access necessary goods and services. Last year, Pew published a poll outlining that over half of Americans said broadband had become an essential service during the pandemic. Almost 90% said it was vital to their households.[79] As of this past August 2021, 80% of rural Americans are online at least once a day, and that number is 90% for urban Americans.[80] Pew has also highlighted that nearly 60% of low-income parents were afraid that their children would have difficulty during the previous 2020-2021 school year due to fears

[78] "Welcome to Maryland Broadband Cooperative." Maryland Broadband Cooperative. Maryland Broadband Cooperative. Accessed November 6, 2021. https://mdbc.us/.

[79] Vogels, Emily A., Andrew Perrin, Lee Rainie, and Monica Anderson. "53% Of Americans Say the Internet Has Been Essential during the Covid-19 Outbreak." Pew Research Center: Internet, Science & Tech. Pew Research Center, October 25, 2021. https://www.pewresearch.org/internet/2020/04/30/53-of-americans-say-the-internet-has-been-essential-during-the-covid-19-outbreak/.

[80] Vogels, Emily A. "Some Digital Divides Persist between Rural, Urban and Suburban America." Pew Research Center. Pew Research Center, October 19, 2021. https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/.

of accessing reliable broadband.[81] These numbers represent a remarkable shift in awareness and the reality of how important broadband is to daily life.

To demonstrate where the public opinion is headed, pre-pandemic, the public was split on government intervention in expanding broadband access. A 2017 Pew poll analyzing Democratic and Republican views on broadband access shows a significant partisan divide.[82] About 60% of Democrats favor local governments expanding networks or subsidizing low-income families, versus 75% of Republicans against any government involvement in the space. Before the pandemic, only 25% of rural Americans believed broadband access was a problem.[83]

Benefits

From a messaging and image perspective, it is a no brainer that being on the broadband bandwagon is a good idea. This program is in line with some of your already existing policies. This program targets demographics that are currently underserved and could prove to be an addition to your base. Helping rural and urban poor can be a compelling message on a future campaign trail. Inner cities are traditionally Democratic strongholds. Providing these areas with access to such a vital service makes it possible to expand the party's base.

[81] Vogels, Emily A. "59% Of U.S. Parents with Lower Incomes Say Their Child May Face Digital Obstacles in Schoolwork." Pew Research Center. Pew Research Center, September 10, 2020. https://www.pewresearch.org/fact-tank/2020/09/10/59-of-u-s-parents-with-lower-incomes-say-their-child-may-face-digital-obstacles-in-schoolwork/.

[82] Anderson, Monica, and John B. Horrigan. "Americans Have Mixed Views on Policies Encouraging Broadband Adoption." Pew Research Center. Pew Research Center, August 21, 2020. https://www.pewresearch.org/fact-tank/2017/04/10/americans-have-mixed-views-on-policies-encouraging-broadband-adoption/.

[83] Anderson, Monica. "For 24% of Rural Americans, High-Speed Internet Is a Major Problem." Pew Research Center. Pew Research Center, August 21, 2020. https://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem/.

Con Analysis

Opponents

There are two possible opponents to Linking Maryland, the General Assembly and competing programs. First, the General Assembly is not friendly to you or your administration. While we have cultivated an image of being big on bipartisanship, the reality is that we have a very negative working relationship. Any proposal seen to be coming from us will be met with skepticism, if not outright hostility. The General Assembly has not in the past been quick to act on our proposals, and it is an open secret that they plan to ignore anything we put forward regarding redistricting.[84] We should expect similar treatment to this policy proposal.

The second possible opponent would be budget conscious members of the legislature and those seeking funding for their own programs. Linking Maryland mirrors several other programs already on the books, which will inevitably come up during a bill hearing.[85][86][87] Although the state is in a healthy financial situation and there is a need to get people connected to reliable broadband as fast as possible, there is a real argument that this program diverts limited resources to a short-term solution. We will need an answer to how this program is unique and why it complements existing programs.

Public Opinion

[84] Cox, Erin. "Maryland House Kills Gov. Hogan's Redistricting Plan." baltimoresun.com. Baltimore Sun, June 29, 2019. https://www.baltimoresun.com/politics/bs-md-hogan-redistricting-killed-20170320-story.html.
[85] Edinger, Julia. "Gov. Hogan Launches Connect Maryland Broadband Initiative." GovTech. GovTech, August 25, 2021. https://www.govtech.com/network/gov-hogan-launches-connect-maryland-broadband-initiative.
[86] "Office of Statewide Broadband - Funding Opportunities." Office of Statewide Broadband. Accessed November 6, 2021. https://dhcd.maryland.gov/Broadband/Pages/default.aspx.
[87] Kirby, Donte. "Governor Hogan Announces Connect Maryland, a $400M Program to Bridge the Digital Divide." Technical.ly Baltimore. Technically Media, August 20, 2021. https://technical.ly/baltimore/2021/08/20/connect-maryland-broadband/.

As mentioned in the pro-analysis, a program like this would appeal to the Democratic base, but that does not necessarily mean our conservative base will like it. A Pew poll from August 2021 found,

> *"*Although rural residents are less likely to be broadband users than are suburban residents, only 29% of rural adults say the government has a responsibility to ensure that all Americans have a high-speed internet connection at home during the coronavirus outbreak. In comparison, 50% of urban residents and 35% of suburbanites say the same, according to previously unexplored data from an April 2020 Pew Research Center survey.[88]

Much of our base is located around suburban and rural areas. The poll was conducted nationally and raised two points that need consideration. First, do we risk alienating our base in favor of gaining points from the other side? Second, does it matter since we would be doing what is suitable for urban and rural communities?

Overall Costs

Pursuing this program can run you into two possible challenges; competition for funding and angering your base. The biggest concern would be justifying the existence of such a short-term benefit that comes at a significant price. There are already more permanent programs that may take longer to implement but will also last much longer into the future. There is a credible argument that it makes no sense to create overlap amongst already successful programs.

Strategies/Points of Compromise

Federal Strategy

Our Congressional Delegation needs to understand the importance of an infrastructure deal to our state. They do not need to be sold on exactly what programs we want to implement and how, but they need to support legislation that brings broadband funding into the state. This

[88] Vogels, Emily A. "Some Digital Divides Persist between Rural, Urban and Suburban America." Pew Research Center. Pew Research Center, October 19, 2021. https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/.

should not be a heavy lift as we have shared constituencies, and broadband is a hot issue. We must convince them to make broadband funding a red line in their negotiations.

State Strategy

Successful passage of this program is centered around gaining the support of Democratic leadership in the General Assembly. Before there is a move to introduce legislation, the leadership needs to be approached and brought into the early stages of bill drafting. Leadership's input must be seriously considered, and possible concessions may need to be made. These concessions include not vetoing specific legislation, nominations, and appointment; including items or raising ceilings in your budget; etc. The crux of the success or failure of getting this policy passed centers around the legislature and how we can work with them. Every other consideration should be secondary.

A possible inroad here would be to gain grassroots support in areas that are heavily Democratic, i.e., poorer suburban and urban areas. These areas are ripe for grassroots activism and should yield several well-spoken residents willing to deliver compelling testimony before the General Assembly. If we can sway suburban and urban voters, this would be a huge step.

Local & Private Strategy

Local government and private industry are critical to the implementation of this program. They need to be included within the drafting of the authorizing legislation. The Maryland Association of Counties will be a crucial player as they can provide the necessary insight and carry sway within the General Assembly. Private companies and broadband related trade associations will also be necessary to include in the drafting as well. It will be essential to demonstrate that we are ready to go once this program is passed.

Policy Recommendation

For several reasons, I do not recommend further pursuing the Linking Maryland program. While the goal is noble, your political capital and financial resources would be better spent trying to achieve other objectives.

Cost Effectiveness

This program would be an expensive way to connect financially strained Marylanders with often wireless and unreliable broadband. Using the data from Connected Care, it would take approximately $200 million to reduce the number of residents without broadband access by half and a further $100 million to eliminate that gap almost completely. The current proposal only allocates $50 million and would most likely not meet our objectives of reducing the percentage to below ten percent by 2024. If the state is serious about providing all residents with cheap and reliable broadband, all resources must be invested into a wireline solution. Linking Maryland is intended to be a stopgap between the current state of no service and a day when we can bring connectivity to an area. The resources we pour into this program would be better distributed into an already existing program. As stewards of the public's money, this program's short-term and minimal gains would not be a wise investment.

Duplication of Effort

The Office of Statewide Broadband already administers two similar programs focused on expanding existing networks and creating new ones. Linking Maryland primarily seeks to accomplish the same goal. This duplication of effort can be seen as costly and may negatively affect the two already existing programs. Also, both programs focus on building permanent and

lasting broadband infrastructure, while Linking Maryland allows for investment in temporary and unreliable technology solutions.

Limited Political Capital

Our relationship with the General Assembly is tense. Proposing a program such as this, in addition to the problems I listed above, will most likely not be fruitful. While we have a significant say in the budget process, the General Assembly can gut this line item in our budget, and they probably will. With government's limited resources, both ambitious legislators and cost-conscious conservatives will have enough ammunition to stop this bill in its tracks. While we can negotiate with legislative leaders and try to bring them along, that will be a massive draw of time and resources.

Connecting the Opposition

Pursuing this program will not necessarily mean that these individuals will now become loyal Hogan supporters or Republicans. Often this is a demographic that will not turn out to the polls, and if they do, they frequently vote Democratic. It is a distinct possibility that the public will ultimately credit the Democratic legislature with this success over your administration. With an election looming and depending on the narrative, this could lead to voters electing a Democrat to succeed you and furthering the Democratic majorities in both chambers.

Curriculum Vitae

Dominic J. Butchko was born in 1996 and raised in Northeastern Pennsylvania. In 2015 he became the youngest elected official in Pennsylvania when he won a seat on Forty Fort Borough Council. Later he went on to serve as Secretary and District Chairman of the Luzerne County Democratic Party. In 2019 he graduated Magna Cum Laude with a Bachelor of Arts in Political Science from Wilkes University and is a member of Pi Sigma Alpha. After finishing his undergraduate education, he worked on Mike Bloomberg's 2020 presidential campaign as well as several other independent expenditures.

After the 2020 election, Dominic moved to Maryland to serve as a Senior Aide in the Office of the Montgomery County Executive. Most recently, he was named Associate Director of the Maryland Association of Counties. As Associate Director, he represents Maryland's 23 counties and Baltimore City in Annapolis.